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"A Poor Scholar . . . because of a Poor Breakfast"

MANY a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, — or less — small wonder that he is listless, nervous, or stupid at school.

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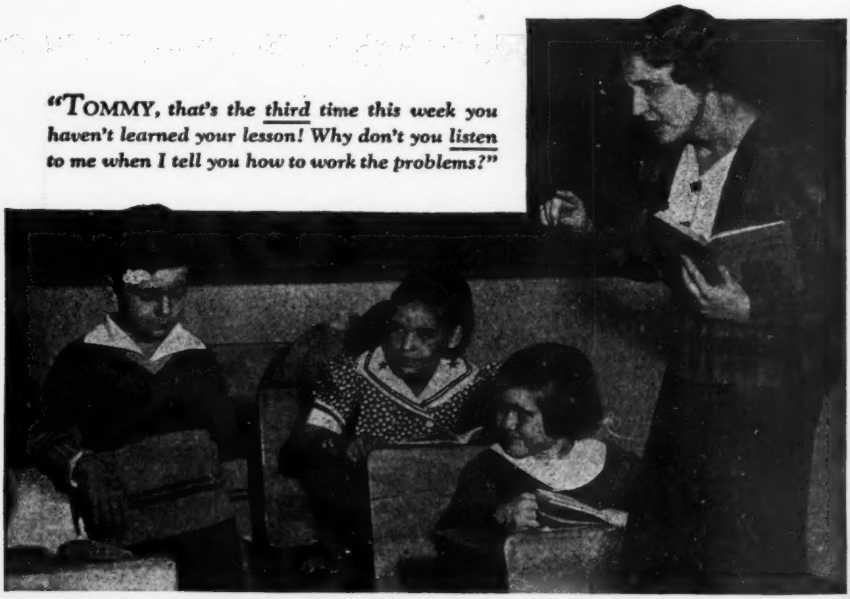

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THE JOURNAL OF SCHOOL HEALTH

Devoted to the interests and advancement of school health service and instruction. Your participation by membership is solicited.

Vol. XVI SEPTEMBER, 1946 No. 7

WHAT CONSTITUTES A GOOD ELEMENTARY SCHOOL?*

The statements below illustrate kinds of behavior which are deemed highly important and which the elementary school should try to develop in all its work:

1. *The child lives happily and constructively with his fellows.* This characteristic should appear in all the activities of the classroom, in extra-classroom activities, in home relationships, and in the child's relationships with adults and other children in his community life. The school proposes to be concerned with developing this characteristic in the organization and direction of all school activities. It proposes that the development of concepts, attitudes, and ideals conducive to this characteristic be prominent in the social studies especially. The school proposes to pursue this purpose in collaboration with the home and with the other social institutions of the community.

The following traits illustrate the behavior of a child who is developing this broad tendency at his own level of social maturity:

a. He assumes responsibility and takes the initiative without aggressive insistence.
b. He works and plays readily and without self-consciousness with others.
c. He appears secure in his group.
d. He succeeds or fails without undue emotional reaction.

2. *The child uses effectively the common skills and knowledges in daily living.* There has been a great deal of critical evaluation of elementary children's mastery of reading, spelling, speech, writing, the interpretative use of other language materials, and arithmetic. The tendency is, however, not to think that more drill in mechanics is the answer. Emphasis is being placed on the functional development and the integrative use of both skills and knowledges.

* In October 1945 the State Superintendent of Public Instruction of North Carolina and the president of the State Education Association appointed a committee to make a study of elementary education in the State. As part of the study 29 schools were invited to participate in self-evaluation and in cooperative planning for improvement. The excerpts herewith are from the summary of the findings of the year's work as reported to the Southern States Work Conference. They are reproduced because of the emphasis on understanding of children's needs as basic in elementary education. H. Arnold Perry and Roy W. Morrison were co-chairmen of the committee.

It is proposed that in real situations in and out of school such traits be stimulated and guided as:

a. He turns naturally to books, current periodicals, the radio, the motion picture for needed information or for recreation.
b. He participates readily, effectively, and pleasantly in the oral and written language activities appropriate to his level of maturity and to the work and play he engages in.
c. He recognizes, appreciates, and handles accurately and readily the number-situations in his daily living.

3. *The child develops and conserves a vitally healthy body.* This purpose has not been served by the "teaching" of health, even when based upon activities such as dramatics which enlist the interest and participation of the child. It is served only when the school undertakes to encourage and guide the child in actual, individual healthful living in the various situations in which he carries on his activities, in and out of school.

The purpose of the school, therefore, is, in cooperation with the home and with community health agencies, to assist the child in everyday experiences, in special projects, and in health service activities (such as physical examinations and inoculations), so that:

a. He becomes familiar with and uses the health resources of the community.
b. He avoids unhealthful and takes pleasure in healthful practices.
c. He assumes responsibility in keeping his school and home environment clean and attractive.
d. He assumes responsibility in improving the health of the group.

4. *The child exhibits alert, wholesome mental attitudes and emotional reactions in his typical behavior.* This purpose can best be served incidentally, but it must be served systematically and carefully. A pleasing, dynamic personality in the teacher and a happy "emotional climate" in the school and in the home are prime essentials. Individual and group guidance is required to develop insight and intelligent attitudes toward himself and his environment, his problems, his needs, his decisions, his achievements and failures.

Our purpose is to develop such traits as:

a. He is conscious of his own capacities and limitations, and builds the one while he learns to live with the other.

b. He is aware of the aptitudes or resources, and the limitations of his fellows. He helps use the former constructively and to overcome or compensate for the latter.
c. He is happy or cheerful under most circumstances.
d. He is curious about many things and seeks to satisfy his curiosity openly and with discrimination.

5. *He thinks critically and constructively in the affairs of his everyday life.* There are two aspects of this purpose. In all classroom and school activity, the teacher must seek to stimulate, to guide, and to assist the child, so that he becomes accustomed to examine critically but not hypercritically, to seek further facts, to form tentative conclusions, further to check his conclusions. In addition the teacher seeks to accustom the child to setting up purposes, to planning, to evaluating the results of his creative efforts. Along with critical and constructive thinking with verbalized materials and his own experiences in the classroom, the teacher, with the parent, should attempt to stimulate the child to use these tools in his everyday out-of-school affairs, so that, for example:

a. He is curious about explanations and relationships.
b. He is alert to motives for speech and action.
c. He is ready to explore other possibilities than the one immediately apparent.

6. *He participates fully in organized group activities which develop civic competence.* Some of these activities go on in the class room in the form of committee work, various clubs and councils. Some are peculiarly the child's own, his scout troop, his "gang," his 4-H club. In no case should the school look upon them as primarily preparatory, but as serving the same ends for him, as do the adult's own civic-social organizations. Full participation implies that he shares in all phases of activity from conceiving a purpose to using the finished product, and on every level of membership he can achieve in his group.

Civic competence implies that, at his level of maturity, for example, he:

a. Cooperates in group action when he does not profit individually.
b. Assumes leadership at appropriate times and without arrogance or domineering.
c. Contributes freely, and without undue emotion to group discussion.
d. Helps in carrying out group decisions even when he has opposed them.

7. *He participates in and appreciates activities which use and develop individual resources, and which have real social and vocational worth.* This purpose hardly needs illustrating. It must be distinctly understood, however, that it implies a choice of activities. It includes voluntary and independent as well as directed or obligatory activities. The child should become accustomed to and skillful in the use of tools and simple machinery. Becoming acquainted with and gaining simple insight into the occupations of the community, assuming responsibilities in the home, and engaging in simple work experiences during free time are objectives which the school should accept in cooperation with the home.

In brief, the school proposes to assume some degree of responsibility, working with the home and the rest of the community, in the development of every aspect of the whole child. It proposes to discharge this responsibility through stimulating, guiding, and assisting the active child in all aspects of his living. It will utilize all his school activities, drawing upon its own resources and those of the whole community. It will cooperate with the home and the community in making his growth in out-of-school activity broader, richer, more profitable.

* * * * *

School Clinic for Spastics,—A permanent school clinic for spastics will be opened at Lincoln School, Tulsa, Okla., September, 1946, under the auspices of the Oklahoma Crippled Children's Commission and with the endorsement of the Tulsa County Medical Society. The proposed school is an outgrowth of certain investigations of the spastic situation in the Tulsa area carried on by the Tulsa council of social agencies and the city schools health department. These two groups are co-sponsors with the Crippled Children's Commission. It is proposed to offer a program of normal education, physical training, physical therapy, occupational rehabilitation or training, and specialized medical supervision and treatment. A trained physical therapist will be employed for the school, and it is hoped to employ later an occupational therapist. The medical supervision of the clinic is to be under local Tulsa physicians who are interested in spastic problems; such physicians either to donate their service or to receive only a nominal fee. *Journal A.M.A.*, June 1, 1946, p. 472.

CHANGING CONCEPTS OF QUARANTINE AS A CONTROL MEASURE

FRED B. WELCH, M.D.

City Health Commissioner, Janesville, Wisconsin

When the State Board of Health last fall revised its rules governing the prevention and control of poliomyelitis, the disease became no longer quarantinable. The new rules place emphasis upon isolation of the patient and contacts, especially children under 18, and upon careful disinfection during the illness. Abolishment of quarantine as a control measure in this greatly feared disease recalls the wide divergence of opinion which has prevailed among health officers, the public and the press for many years.

Several years ago the writer attended a meeting at which a group of public health officials were discussing the relative value of quarantine enforcement measures in the control of polio. The argument finally dwindled down to two men whose opinions were diametrically opposed.

"If a mad bull were at large in a certain section of the city you certainly would post signs warning people of his presence," said the one who favored quarantine.

"I certainly would not. I would notify the law enforcement officers and have the animal shot," said his opponent.

"Well, I guess you are right, for in this discussion we have certainly 'shot the bull.' "

The preventability of this disease is a far more difficult problem than the elimination of a dangerous animal by confining or destroying it. There is still an amazing lack of knowledge regarding this disease; how the virus enters the human body, how it is carried to the spinal cells, and why it causes the destruction of these cells in some individuals while in others it causes no harm. This widespread saturability of the virus with paralytic cases interspersed is the factor that makes difficult an understanding of the epidemiological relationship that exists between the paralytic cases.

Neutralization tests for serologic immunity disclose a definite immunization in population in direct ratio to the spread of the infection. This widespread dissemination of poliomyelitis virus, during outbreaks of the disease, has been proven by the cultivation of the virus from the stools of healthy contacts and abortive cases, as well as from the nonparalytic and paralytic cases of this disease.

The rapidity with which the disease spreads over wide areas certainly points to direct contact as the principal means of its

spread. One epidemiologist has compared the wave-like character of the spread of this disease to ripples from a stone dropped in a placid millpond, with the disease progressing in all directions from a single focus.

The part that faulty environmental sanitation plays in producing this large reservoir of subclinical infection is a controversial subject. The virus of poliomyelitis has been repeatedly isolated from the stools of apparently healthy people during epidemics of this disease, and these individuals have continued to eliminate this virus in their stools for many months. The virus has been isolated from the bodies of flies fed upon such stools, and from the sewage and water contaminated by such stools. Fly-control measures, the proper disposal of excreta, proper supervision of water, milk and food supplies, and personal hygiene are vital factors in community health. Such measures should be given consideration when an epidemic of infantile paralysis threatens.

In adopting enforcement regulations directed toward the control of this disease we must recognize our limitations. The widespread dissemination of poliomyelitis virus during epidemic periods shows that quarantine of the recognized case is of no value in the control of this disease. It is indeed difficult to cast off the shackles that bind us to the past. *Quarantine creates fear and dread of this disease.* It is a cloak to cover up the amazing lack of knowledge regarding this disease. Many times it creates psychoneurosis in an individual that needs intelligent control and direction. Quarantine legislation against the recognized case disease makes it difficult to obtain trained nursing care in the home and proper transportation to an adequately equipped hospital. Making the case reportable and placardable and placing certain restrictions on child age groups will accomplish as much as quarantine, besides doing much to alleviate the unnecessary fear of this disease. To eliminate uncertainty and confusion in enforcement regulations there must be a state-wide unification in the methods of procedure. Standardization will alleviate confusion with its resulting mass hysteria.

The very character of paralytic cases creates emotionalism. The rapid onset followed by sudden paralysis is dramatic. The child with paralyzed arm or leg with its withered muscles is an ever present reminder of the seriousness of this disease. The cases of polio of the Landrys and bulbar types are few in number but the mortality rate is exceedingly high. The fear and mass hysteria created is out of proportion to the number of cases involved. Rheumatic fever with rheumatic heart disease is a far more important

health problem, from the standpoint of morality and life expectancy, than infantile paralysis, yet it creates far less public interest.

The lack of uniformity of regional age level quarantines is a striking example of the lack of understanding the problems involved. In many cases these age limit restrictions by local boards of health are not volitional acts but are the end result of group pressure. If a coincidental drop in the case rate occurs after such regulations are put into action, the public is convinced of their value. It is difficult, if not impossible, to enforce such quarantine measures and they tend to force children from these areas into communities where no such restrictions exist.

Since reminiscence is a natural attribute of a person who has been in public health work for over a quarter of a century, the writer recalls most vividly a case of acute ascending flaccid paralysis which occurred over 20 years ago. It was the first as well as the only typical case of "Landrys paralysis" that I have ever seen. It occurred in a young farm worker who was admitted to our communicable disease hospital. Because of the fear of this disease which existed at that time it was impossible to obtain the services of a professional or practical nurse to help care for this man. The director of county poor relief finally obtained the services of a man from the home for the indigent to help care for this patient. This man together with the matron of the communicable disease hospital and myself gave nursing care to the unfortunate individual until he died. There was no need for newspaper publicity, for the story of this case traveled rapidly throughout the community, with its attending exaggeration, distortion and personal fear. This was a true case of poliomyelitis with typical spinal fluid findings. Where the patient acquired the virus is unknown. No known paralytic cases occurred before or immediately after this case.

Much of the superstition connected with this disease has been eliminated during the past 20 years but there is still a great deal of incorrect thinking concerning it. We must bridge the gap between scientific knowledge and its practical application, if we intend to eliminate "Man's inhumanity to man." Reprinted from *Wisconsin State Board of Health Quarterly Bulletin*, April - June, 1946, page 40.

* * * * *

TUBERCULOSIS IS CONTAGIOUS*

Several centuries before Christ the contagion of tuberculosis was suspected. Despite the fact that Villemin proved its contagiousness beyond doubt in 1866, and Koch actually demonstrated the specific organism, we find constitution, inheritance, race, and a dozen other factors being emphasized as the cause of tuberculosis, sometimes almost to the exclusion of the tubercle bacillus. One disease after another, like diphtheria and typhoid, were accepted as contagious and so treated, but when tuberculosis was proved to be contagious many persons, and even some physicians, refused to accept the evidence.

Probably this attitude was due to the fact that the primary lesions of tuberculosis usually are not visible on the surface of the body. They do not cause significant illness, and therefore in the great majority of cases they are not known to exist. Thus, individuals who are exposed to contagious cases of tuberculosis go blithely on assuming that the disease is not contagious, despite the fact that they themselves have developed primary lesions as a result of the exposure. Usually it is months, years, or decades later that clinical manifestations appear—so long after the contact that they are not associated with the exposure, and therefore the disease often is not recognized as contagious.

Not until we had an accurate and specific test for primary tuberculosis could the more detailed facts concerning its contagion be determined. It was then discovered to be one of the most contagious of all diseases. For example, a tuberculous teacher could transmit bacilli, resulting in primary tuberculosis as manifested by the tuberculin reaction, to nearly all her pupils, and tuberculous parents could transmit the disease to all their children.

Long after we instituted strict contagious disease technique in the management of persons suffering from such diseases as scarlet fever, we continued to manage cases of tuberculosis with almost no regard for its contagion, and in many places we still do. About all we did to protect fellow patients, personnel, and visitors was to ask the patient to cover the mouth with gauze or paper napkin when coughing or sneezing and to collect sputum in a special container. These procedures are inadequate, as demonstrated beyond doubt by the large number of students of nursing and medicine who develop primary tuberculosis through contact with patients in sanatoriums and hospitals, with consequent illness and death for

* An editorial by Jay A. Myers, M.D., appearing in *The Journal Lancet*, April, 1946, p. 121.

many in later years. Any hospital today that would ignore the contagion of such diseases as scarlet fever, diphtheria, and typhoid fever, as is done in the case of tuberculosis, probably would be voted out of state and national hospital organizations and would have many persons claiming compensation for disease contracted from patients.

It is one of the outstanding paradoxes in medicine that we build institutions for the tuberculous for the express purpose of protecting girls and boys against contagion in their homes and communities, and then ask, or even demand, that the same girls and boys come to these institutions to work with patients, without effective protection against the disease, despite the fact that in such institutions there is more intimate contact with and exposure to patients than there would have been in their own homes. Battles are waged against contagion as long as patients are in their own homes and communities, but as soon as they are admitted to hospitals and sanatoriums peace and tranquillity reign, as though the mere admission to an institution rendered the disease noncontagious or domesticated tubercle bacilli.

The hazard of contact with contagious cases of tuberculosis in homes, places of work, hospitals, and sanatoriums has been clearly demonstrated. Nevertheless, some schools and nursing organizations have maintained that a nurse is not well qualified to practice her profession unless she has had tuberculosis training that brought her in contact with patients. Although there is considerable diversity of opinion as to whether work with tuberculous patients is necessary, certainly no one could object to such a service if contagion were given the same consideration as it is in other transmissible diseases.

At the present moment the United States Veterans Administration is facing a serious and difficult problem with reference to the contagion of tuberculosis. Already there are many thousand veterans of World War II, and there are still a considerable number of veterans of World War I, who have clinical tuberculosis. The responsibility of the Veterans Administration is: (1) to those who visit tuberculous patients in the hospitals; (2) to the veterans themselves who are tuberculous but may be cross-infected; (3) to every member of the personnel working on tuberculosis services or coming in contact with tuberculous veterans in any way; and (4) to the general public, by reducing leaves of absence of contagious cases to an absolute minimum and making some provision for those who leave institutions against medical advice, as well as for those

who refuse to enter institutions. Exceedingly close co-operation between the Veterans Administration and the health officers of the country is imperative. At this moment it is only the official health officer who has the authority to enforce isolation of contagious cases of tuberculosis. Unless the health officer is alert and uses his power promptly there is considerable danger that there will be an appreciable increase in tuberculosis among the citizens of this country.

The procedures recommended for tuberculous veterans are equally applicable to tuberculous civilians. In both groups there are two important considerations: first, the protection of the public against contagion; and, second, adequate treatment of the tuberculous patient. On the whole such treatment is far more successful when the activities of the patient are rigidly restricted and all indicated treatment is administered until the disease is noncontagious and the individual's working capacity is restored.

Although no immunizing agent, such as BCG, has been proved sufficiently efficacious for general adoption, there is much that can be done to protect the personnel of hospitals and sanatoriums and all others concerned against the contagion of tuberculosis. Strict contagious disease technique, rigidly enforced, is capable of reducing the infection attack rate among personnel on tuberculosis services to almost that of the general population, as has been demonstrated at the Minneapolis General Hospital.

Unless a hospital or sanatorium is willing to afford every known protection to its personnel on tuberculosis services and to study methods of improving and offering greater protection, professional students should not be permitted on these services. Each member of the personnel of every classification should be informed of the contagiousness of the disease and their salaries should be definitely higher than those of personnel employed on noncontagious services. Indeed, their pay should be commensurate with the risk involved.

* * * * *

Chocolate Colored Milk Drink,—A "chocolate milk drink" produced from partially evaporated milk with the addition of chocolate and other ingredients may not lawfully be sold in California. Such a product does not comply with the requirements of Section 562 of the State Agricultural Code and does not conform to the standards established by Division 4 of that code as required by Section 641 thereof. This opinion was rendered to the Director of the Department of Agriculture, Sacramento, California.

THE OREGON PROGRAM FOR THE CONSERVATION OF HEARING

REBECCA OVERSTREET

Senior Audiometrist, Oregon State Board of Health

The hearing program in Oregon is organized as a part of the Division of Maternal and Child Health of the Oregon State Board of Health. At present, a senior audiometrist and a junior audiometrist compose the testing staff. These technicians offer their services to the communities in which the county health department, the school offcials and the local physicians are interested in carrying out the complete hearing program. Thus an adequate follow-up of the deficient cases is assured.

The program itself is as follows. The technician gives a screening test with the 4A audiometer. This is the group test in which the stimulus sounds are spoken numbers which are played from a disc on a phonograph audiometer. It must be stated here that we clearly recognize that this test is valuable only as a screening device and not as an aid in differential diagnosis. Forty children are usually tested at one time by this test. However, first and second graders are tested in groups of six or eight by the monitor method, in which the older students write down numbers whispered to them by the first or second grade pupils. A re-check is given immediately to those pupils failing in the first test. Third graders are re-tested by the monitor method.

A pure tone or 6B audiometer test is given at a later date to those failing the group test. The screening test of air conduction is given, and if this indicates that the child is defective, a threshold acuity test is given. An audiogram is made of the child's hearing, and if he has a 14% loss in the voice range frequencies in either ear or a 25% loss in the high tones in either ear, the child's case is marked for referral. If the loss is not that great, the case is marked for deferral and is re-checked again the following year to determine if there has been any change and if there is need for medical attention. All of the defective hearing cases are re-tested the following year. If the child still has defective hearing the case is again referred for immediate medical attention.

Following the pure tone test, a brief medical inspection of deficient pupils is given by the County Health Officer or an assigned local physician after which a nurse-parent conference is arranged. At that time the nurse presents the findings of the test and the medical examination. Every effort is made to persuade the parent to obtain proper medical treatment for his child.

At all times in which a public health worker comes in contact with a case, effort is made to obtain any information that would add knowledge concerning the child's hearing difficulty. When the pure tone test is given the audiometrist obtains the medical history and school progress of each defective case. Following a period of time allowed for visiting a private physician, an attempt is made to obtain information relative to the nature and to the amount of treatment given the children by the physicians. Statements from nurses, children, and parents give a limited view, but it is of importance in deterimning the value of the program.

The facts accumulated by the health department, such as hearing loss score, teacher's statements, medical inspection, history from parent interview, physician's report of diagnosis and treatment, are used in conference with the public health nurse, principals and teachers to determine the educational needs of each child. For example, seating, special assistance or coaching, lip reading, and in some cases special education.

In 1943-1944 the total number of pupils tested was 21,553; re-tested 7,562 and 2,802 pitch tests followed. The number failing was 1,199; of these, 170 were defer cases, and 1,023 cases were referred for medical attention. The percentage of those tested that were found to be defective was 4.7%. In 1944-1945 the totals were as follows: Pupils tested were 31,295; re-tests given, 11,286; pitch tests, 4,876; the number failing, 1,023; defer cases, 27; refer cases 1,176. The percentage of total tested children found defective was 3.8%.

The results of these surveys have shown that over a thousand hearing cases are found in Oregon each year and that 50% to 60% of those cases that receive medical care show improvement.

* * * * *

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(Continued on page 195)

BODY AND MIND

JAMES FREDERICK ROGERS, M.D., Dr.P.H.
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It was the privilege of the writer to review, in a recent year, the many studies which have been made with reference to the relationship between physique and physical condition, and the exhibition of mental ability as indicated by various special tests and by school progress. The subject is a fascinating one and has attracted some two hundred investigators from the time of Francis Galton, in 1874. So far as school children are concerned, the first of such studies was made in Russia by Gratsianoff and published in 1889. What the writer had most in mind, in this study of studies in this field, was not only to learn their collective results but to discover their bearing on the activities of school health workers. The review of the subject was completed at a time in which funds were available for human destruction rather than for human improvement, and the manuscript remains without a publisher. Perhaps the following summary will be of interest to the readers of the Journal.

Taking physique as measured by the yardstick, tape, and scales, and mentality as indicated by the tests mentioned, all comparisons show that the taller and heavier student, on the average, excells the shorter and slighter one; but this relationship is not marked, and it is true only on *the average*. The smallest child in a class may be the "brightest"; and the largest, the dullest."

When it comes to the defects of eyes, ears, nose, teeth, etc., there is the same positive relationship between relative perfection of special organs and exhibition of superior scholarship. But, again, the relationship is only relative, and the student having such a defect, or more than one such defect, may stand at the head of his class, while his companion with relatively perfect sense organs stands at the foot. Of all organic defects, impaired hearing is the most likely to prove a handicap.

Neither acute nor chronic disease seems to affect intelligence as measured by Binet tests, except only those affecting the ductless glands or the brain directly.

In one study of 2,000 children, an estimate, by selected teachers, of the general health of pupils, as seeming "robust" or "delicate," was compared with the estimate of general intelligence. The correlations were only slight.

The results of treatment of defects have not been remarkable. One investigator concludes: "Within the limits of this study, the correction or non-correction of defective vision, diseased tonsils,

nasal obstruction, and dental caries, was not followed by any marked changes in arithmetic fundamentals, reading, and spelling." In another study, in which one group of children received "complete or nearly complete medical attention" for all defects or diseases found, no notable effect on mental achievement was evident. The most evident results in educational progress has been noted in some cases of relieved nasal obstruction, with the accompanying effects in better sleep, better hearing, and general comfort, but the acceleration in mental keenness has usually been slight and not lasting.

It might seem, from the foregoing, that the results of the school health service are a bit discouraging, to say the least, but we forget that school progress and reaction to certain tests of mental accomplishment are by no means the whole of life. The school day is brief, its work is leisurely, there is much repetition, there is every assistance on the part of teacher and, perhaps, of pupils; even regular attendance seems not so essential to progress as might be supposed; if vision is defective, the hearing is usually good, and vice versa.

But in later occupational life, with its eight-hour day, the strain of more or less continuous use of imperfect organs is likely to affect the health and happiness of their possessor. A boy with a weak heart may do well in school, but he will be limited in what he may accomplish in after-school days. The girl with impaired hearing is badly, if not fatally, hampered as a telephone operator, a saleslady, or a teacher. The outlook for the seamstress or stenographer with uncorrected or uncorrectable eyestrain is not happy. A normal nose and throat are essential to continuous health. The youth with badly decayed teeth may graduate with honors, but he will be better off in later life, if he possesses his own teeth, rather than a set devised by a dental mechanic. What the school does to improve or preserve the health, general and particular, of its pupils may not be returned to it in better reaction to certain tests and in grade passing, but it does count in the long run. Education, whether mental or physical (we use the word physical in its Spencerian meaning) is, or should be, for life and living—not only in school days but especially in maturer years. And whether a mind is brilliant or dull, it works best and is happiest in a body which is as sound as possible.

But prevention is better than repair. It has been noted that there is some positive relationship between superior physique and superior mentality. There is also some relation between general

bodily development and the possession of defective organs. The larger the physique, the fewer such impairments. Physique depends, in large measure, on nutrition; and poor nutrition is, in itself, a source of defects. It also helps open the door to invasion by pathologic organisms, which, in turn, often do damage to eyes, nose, heart, lungs, etc. Comparisons of children fed in early life on what were considered satisfactory and unsatisfactory diets have shown decidedly more defects in the latter group.

We do not know much about nutrition, but we might apply what we do know; and the earlier it is applied, the better. At school age is a little late, but better than never. The results should show in better physical health and, perhaps, in some degree of better mental development. In turn, there will be less work for the school health service.

Taking children as we find them, it is, of course, the more serious physical faults which hamper most, in school and afterward, particularly defects of hearing. Unfortunately these cannot usually be improved (where it is possible to help them) by simple means or a single treatment; and, on this account, they are most likely to be neglected. Such cases deserve our first, and our most persistent, attention, and this should include the matter of nutrition. It is probably more than an historic coincidence that William Banting, who gave to the world the famous "Banting cure" for obesity, received the formula for his diet from a London aurist. Banting's hearing improved, along with his many other ailments, and he lived to a good old age as healthy as the traditional fish.

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RAPID HEMOGLOBIN DETERMINATIONS ON SCHOOL CHILDREN

WALTER WILKINS, M.D., PH.D. AND RUTH BLAKELY, B.S.
Nutrition Investigations and Services
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A number of health departments have expressed interest in doing hemoglobin determinations on large groups of school children. However, most methods for determining hemoglobin have been either unreliable or too slow and cumbersome for large-scale work of this type. In the course of doing nearly 20,000 hemoglobin tests on school children of all ages in the past eighteen months, we have made certain minor adaptations of standard procedures which render them more suitable for rapid group work, without sacrifice of accuracy. By using the combined adaptations herein described, a team of four or five people, after a little practice, can do from sixty to 120 tests per hour.

Doing the tests in the school building with portable equipment has certain advantages:

1. It greatly simplifies the whole procedure by reducing the number of manipulations required.
2. It almost eliminates the washing of glassware since the blood is transferred directly from the finger-tip into the reading tube.
3. It increases opportunities for educational activities connected with the test. The child sees his own blood being tested and receives the result of his test in writing before he leaves the room.

This paper does not include details of individual methods. Various acid hematin methods and different colorimeters call for different amounts of acid and blood, as well as different lengths of time for development of color. When reading with the photoelectric colorimeter, we most often use 20cmm. of whole blood in exactly five or ten cc. of 0.1N HC1 and standardize our instruments for ten minutes of color development. We have used the Adams-Sahli prismatic permanent glass standard and several photoelectric colorimeters of both battery and alternating current types. While the "glass standard" methods have the disadvantages of greater subjective reading errors, the apparatus is less expensive and not subject to the sometimes undetectable variations of some of the electrical instruments.

We calibrate our instruments by use of the Wong (1) method for iron and the Van Slyke (2) method for oxygen-capacity. Probably many local health departments could have their apparatus calibrated at the State Health Department laboratory or at the bio-chemistry department of a medical school.

Five to fifteen or more matched tubes are used in rotation. This eliminates waiting for color development in any one tube. Five to thirty or more minutes are allowed for acid hematin color development (depending on calibration of reading instrument). The number of tubes needed is roughly proportional to the amount of time allowed for color development. A long test tube rack with two rows of holes is used to keep the tubes in order—one side contains tubes with acid alone and the other side holds tubes to which blood has been added to the acid and which are standing for color development. After the hemoglobin reading is made, the tube is emptied and drained and the correct amount of acid is pipetted into it in preparation for the next test. The tubes are thoroughly washed once each day with soap and a brush in hot water. Drainage should be good at all times.

The same carefully calibrated pipette is used for consecutive blood sample measurements. The practice of rinsing a pipette with a portion of the next liquid is a standard practice when numerous tests are done consecutively on a series of similar liquids. The pipette is rinsed twice with blood from a finger stick and the rinsings are blown into a small piece of clean gauze held in the palm of the hand. The 20cmm. (the volume most commonly used) of the blood are then measured and delivered into the bottom of a tube containing the measured amount of 0.1N HCl, and the pipette is rinsed twice with unmixed acid in the tube. The same pipette is then ready to be rinsed with the next sample of blood. If the pipette is kept scrupulously clean, almost no acid is retained. Any slight amount of acid remaining in the pipette is removed by the preliminary rinsing with blood of the next person to be tested. The dilution error, which has been thoroughly checked by several methods, has been found to be completely negligible. This repeated use of the same pipette completely eliminates changing, washing, and drying pipettes and has been one of the greatest time-savers in this procedure.

Many pipettes purchased on the open market have been found to be inaccurate when calibrated gravimetrically with mercury.

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One such pipette delivered 40% too much blood. On checking with several laboratories, we have found inaccurate uncalibrated pipettes (especially those made during the war) to be sources of large errors.

Usually five people comprise a "team" and are seated around a single table. A typical distribution of work follows:

1. The first person records name, age, tube number, time, and hemoglobin level and notifies the reader of the exact time to make each reading.
2. A second person cleans the finger with alcohol, punctures it with a small Hagedorn needle (which is stuck through a small rubber stopper), and immediately rinses the needle in 0.1N HC1 and then in 70% alcohol.
3. A third person rinses the pipette with blood, measures and delivers the blood into the 0.1N HC1, rinses the pipette with acid, and immediately shakes the tube to mix the acid and blood.
4. A fourth person makes the reading on the colorimeter at the exact time designated by the recorder, empties the tubes and drains them.
5. A fifth person pipettes the HC1 into the tubes.

A smaller team may be used and the above jobs suitably redistributed.

Mimeographed sheets with simply written information about the significance of the test are distributed before the testing is begun. These sheets also aid the recorder by having the name and age information on them. Each child's hemoglobin reading is written at the bottom of the sheet for him to take to his parents. Thus, each child receives his individual hemoglobin reading from the recorder immediately after his test is completed. Acceptability by school children and other groups has been excellent.

With all groups, educational work, along with the chemical determination, has added to the smoothness of the procedure and to the interest and cooperation of the children. Science, mathematics, and home economics classes have used the findings in various ways and have thus added to the educational value of the tests.

When we find an unusually low hemoglobin, we place a drop of this blood beside a drop of normal blood on a filter paper to assist the child, his teacher, and his parents to visualize what is meant by a low hemoglobin or "pale thin blood." Also, such a child is urged to see his family physician for further study and treatment.

Summary:

Adaptations of standard bio-chemical procedures are described which enable a team of five people to do from sixty to 120 "on-the-spot" hemoglobin tests per hour.

Aided by grants from the Milbank Memorial Fund, The Research Corporation through the Williams-Waterman Fund for the Combat of Dietary Diseases, and the Nutrition Foundation.

* * * * *

POUNDS AND INCHES*

What Growth Is,—Physical growth in children is much more than an increase in pounds and inches. It is a highly complex process which implies progressive development in the structures of the body and their capacity to function. Growth is subject to many different influences, some of which are not yet clearly understood. One factor definitely known to interfere with growth is disease. *All healthy children and young animals grow. If a child stops growing, something is wrong.* Another factor which influences growth is heredity. Still another is the action of the chemical substances called hormones secreted by various endocrine glands, which have a tremendous and complicated influence on growth.

Physical condition, heredity, and glandular activity are internal factors which affect growth. There are also external factors, among which are the seasons of the year, exercise and work, fatigue, and rest. Important also are the nutritional elements (proteins, carbohydrates, fats, vitamins, and minerals). Inadequate nutrition interferes with optimal growth, whether it is due to faulty or insufficient food intake or whether there is some physical, emotional, or social condition which is interfering with the normal assimilation of food.

It is known through experiments made on animals that growth can be stimulated and directed in various ways—for example, by change of diet, by better care, or by increasing or decreasing the activity of the endocrine glands. It has been shown that a change to more hygienic living improves the growth of children. But to what extent growth can be modified is still a most interesting and important speculation.

Although much of the process of growth is difficult to analyze, some of the accompanying bodily changes are concrete and visible, the most obvious of which are increasing stature and weight.

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*Reprinted by permission from a leaflet issued by the Metropolitan Life Insurance Company.

Height-Weight Records,—Naturally, every parent wishes to see his child making the best possible progress. The child's development is likewise of significance to the school administrator, the teacher, the physician, and, above all, to the child himself.

Attempts have been made to establish a criterion of normal growth by which a child's progress can be measured at any time as an index of his general health. Such a method would provide the teacher and the school physician with a simple and expedient way of finding children who are in need of medical attention or whose habits are in need of improvement.

Various systems of measurement have been tried out. The one which was formerly most widely used was a standard table of average heights and weights at given ages, based on the assumption that a child who deviates very much from this theoretical standard of normal development is not progressing satisfactorily.

But thinness does not necessarily mean that a child is undernourished or in poor health, and so-called "normal" weight is not necessarily an evidence of good health. What is called normal weight is really merely the average weight of children of various sizes. In most cases wide variations in the height-weight ratio are due to skeletal differences. In children who appear to be too fat, diet may be an important controllable factor, but in some cases glandular disturbances may be at fault. In other cases, individual development may be slow as compared with that of other children. In other words, a deviation from the average weight for height and age may be perfectly normal for a particular child.

Tables of weight in relation to age, height, and body type have also been worked out in an attempt to overcome the objection that deviations from the standard are due to individual and racial differences. But even tables in which boys and girls are classified as "tall, slender type," "average (medium) type," and "short, stocky type" have not proved satisfactory for school use because of the difficulty of guessing to which group a child belongs. Seasonal fluctuations also may enter the picture. Recent studies show that some children tend to make better gains in weight in the fall and early winter than in the spring and summer.

These are some of the reasons why it is not considered wise or informative to compare a particular child's height and weight with a standard table of averages according to age, even when such tables allow for body build. On the other hand, height and weight can be very useful as an indication of progress in growth if these measurements are related to previous heights and weights of the same child. One principle upon which all child health authorities

and others who work with children agree is that all healthy children grow. Each child, however, has his own pathway of development. For that reason height and weight should be used to help chart the child's progress along his own particular pathway.

A Useful Measurement,—As a result of much investigation the opinion is now generally held that a simple record of height and weight without reference to a standard table is sufficient for classroom use. The weight should be taken at approximately the same time each month in clothes ordinarily worn in the classroom, and the height should be measured two or three times a year.

In every group of children there is a small percentage who currently have some departure from normal health which interferes with growth. Screening is one way of finding these children. Experience has shown that the child's weight record is one of the most effective and least expensive screens. Failure to gain in weight over a period of one or two months may not have much significance, but a failure to make any gain for three successive months is nearly always a sign that something is wrong, either because of poor health habits or because of a disease or defect which needs medical attention. The majority of children fail to gain over a one-month or two-month period, but only 8 per cent to 10 per cent of elementary school children fail to gain for three successive months between September and May. In many school systems such children are called to the attention of the nurse or physician. One should also consider the child's progress in school, the standard of living to which he is accustomed, and such factors as the physician may find significant in making a medical examination.

Continuous records of height and weight have specific value in several other ways:

1. They can be used to point out to the child the relation between growth and health. Thus while they are not diagnostic in a clinical sense, they are a good educational device.
2. They can be used as an incentive to encourage the child to keep in good condition or to build up his health. His growth record is something the child can see and understand. In most cases it is a mirror revealing the relationship between growth and nutrition, sleep, rest, and exercise. By keeping track of his progress the child can see that his health status is closely bound up with his health habits. This provides one way of appealing to the child to take some of the responsibility for his health.
3. The records are of interest to parents, who naturally like to have evidence of their child's progress. They may be helpful to

the parents in arousing the child's pride in his health and in winning his cooperation in matters that affect his health.

Record-keeping of this type in the classroom provides a valuable medium of health teaching. Through it the teacher, the parent, and the child collaborate regularly in a matter which is of importance to each one of them—the child's present and future well-being.

* * * * *

A Village Acquires New Health Habits,—When the town of Calumet, Oklahoma, needed a health program, the school innovated a plan to awaken the community and to stimulate and maintain good health. This was brought about by the cooperation of the school superintendent and the vocational homemaking department, writes Marguerite Scruggs in *American Vocational Journal.*

Working under two committees, one of townspeople and one of school faculty, and both under the direction of the homemaking teacher, the group tackled the health problems of the community.

A program was formulated to improve food habits. Demonstration breakfasts were given to impress upon the youngsters the food needs of this meal. Each child was given a score card on which to keep a personal food record.

In controlling communicable diseases, the homemaking class in the school helped by establishing an isolation room for sick children. Individual health records were made, and the pupils were examined for tuberculosis.

The question of sanitation was taken up, and a new lavatory installed in the school. Facilities for hanging wraps and storing lunches were improved. Emphasis was put upon cleanliness, and it has become a "must" for students to wash their hands before eating.

Out of all these activities came the first community health meeting. Here the health program and its aims were explained. The health project has thus moved out of the classroom and has become an influence on the whole community. Reprinted from *School Management,* May 1946, page 490 .

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EDITORIAL

Is Growth a Health Incentive or a Health Screen,—The article on "Pounds and Inches" prepared by the School Health Bureau of the Metropolitan Life Insurance Company and available to school people from them, marks another step in our progress toward using the child's growth pattern instead of his height-weight ratio as an index of health.

We know now that "weight for age and height" reflects skeletal build more than emaciation or insufficient soft tissue or any other health factor. Actually some of the healthy children used in making the tables were more than ten per cent below average weight. No matter how good the school health program was, there were always more "underweight" children in the upper grades merely because older children vary more than younger children in the bodily proportions.

There were several reasons for our extensive use or misuse of the height-weight ration as a nutritional index. General nutritional status was not easy to determine and we were without many of our present diagnostic tests for specific deficiencies. The use of figures and fixed percentages gave a false sense of exactness. To speak of a child as being "underweight" or "eleven per cent below normal," instead of saying that he was "slender" and weighed "eleven per cent less than the average weight for boys of his age and height" implied, falsely, that we could tell what this particular

boy should weigh. Like palmistry, diagnosing the nutritional status by the scales was handy but unreliable, so we made a lot of slender parents of slender children unhappy.

Teachers liked the weighing and measuring program because watching growth was a splendid stimulus to the development of health habits. Fortunately that valuable stimulus is retained in the present practice of monthly weighing, with attention centered upon consistency of growth. The child wants to grow. Hygienic living is one of the factors in growth. Interesting the child in his own growth also interests him in doing the things which will promote growth. Monthly weighing in the elementary schools would be worthwhile solely as a health educational procedure for promoting hygienic living.

The fact that well children grow with reasonable consistency, while sick children usually stop growing, makes it possible for us to use prolonged intermittency of growth to screen out many (not all of course) of the children who need medical attention. The eight to ten percent of elementary school children who fail to gain for three successive months between September and May should be called to the attention of the school nurse or physician to see whether physical defects, a recent illness from which a full recovery is not being made, unhygienic living, or some other cause detectable by the physician has caused cessation of growth.

It is impossible to tell how much a tree, a dog or a child should weigh from its height alone because there are different types of trees, dogs and children. Hygienic living makes these organisms grow faster, but it will not give the greyhound the proportions of the mastiff. If, however, we take a dozen selected measurements on the tree or the dog or the child, we can more accurately predict its weight. In the case of the child, a group of anthropometric measurements will enable us to classify him and determine whether he has less soft tissue than his skeletal peers.

These additional measurements and soft tissue indices are useful to the pediatrician. He has the time and staff to secure accurate measurements, and he knows how to interpret them. The teacher has neither of these advantages.

Giving children the chance to watch their growth by means of monthly weighings and looking to see whether there is something wrong with the child who has failed to gain for three successive months are sound public school procedures. The authors of "Pounds and Inches" are aiding school health in promoting these practices.

CLAIR E. TURNER.

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Name.....

Name of school or group (or affiliations).....

School Address.....

City.....State.....

(*Check:*) Elementary..... Jr. High..... Sr. High..... College.....

Teacher Training College ☐ Student ☐ Teacher Community Welfare..... Other.....

Grades Taught.....Number of Classes or Groups.....

Subject Taught or Title.....No. in *one* group: Girls.....Boys.....

ANNOUNCEMENT OF AMERICAN SCHOOL HEALTH ASSOCIATION MEETING IN CLEVELAND

The first post-war meeting of the American School Health Association will be held in Cleveland on Monday, November 11th. Also joint sessions will be held with several sections of the American Public Health Association during the week. Hotel reservations should be made well in advance, since a record attendance is expected.

This year the program has been streamlined with concise, up-to-the-minute topics of current interest. The papers will be brief and to-the-point. The complete program will be printed in the October issue of the Journal.

The first general session will begin at 10 o'clock Monday morning and will include four papers. Subjects will be: "Clinic Rooms in Schools," "Anemia Among School Children," "Child Health Needs and Interests," and the "Function of the Health Coordinator."

The second general session will begin at 2:30 o'clock Monday afternoon. It will deal largely with fact-finding in the field of school health problems. Papers will include discussions of visual testing, malnutrition, rheumatic fever, and tuberculosis.

The third general session will be a dinner meeting at 7 o'clock Monday evening. The William A. Howe award will be presented to three outstanding workers in the field of school health. Each of the three recipients will respond with a short paper on a subject of current interest. A large attendance is expected at this session.

Three joint sessions have been arranged with sections of the American Public Health Association. The first joint session will be with School Health, Maternal and Child Health, Food and Nutrition, and Public Health Nursing. This program will include papers on the following topics: "Signs and Symptoms of Malnutrition in School Children," "Health Observations Which Teachers Can Make," "Film Strip on Teacher Observation," and "How Teachers Can Help Discover Behavior Problems."

The second joint session will be with the School Health Section and will include discussions of the nuisance diseases, medical problems and examinations of school children, and techniques of vision and hearing testing.

The third joint session will be with the Dental Health Section. One of the highlights of this session will be a discussion of current concepts on fluorine and dental health. Right now this is a subject of great interest. This will afford an opportunity for health

workers to bring themselves up-to-date on the fluorine question. Don't miss this.

The program this year has grown entirely out of suggestions made by various members of the Association. It will be interesting, informative, and practical. Plan now to attend. Make reservations immediately at one of the Cleveland hotels. Arrange to arrive Sunday in order to get the full benefit of the many interesting discussions Monday, November 11th.

P. S. To: Present members of the American School Health Association.

Subject: New members.

Many "recruits" in school health work will wish to identify themselves with the American School Health Association and attend the Cleveland meetings. Have you invited them? What about the members of your staff? What about your co-workers? Those interested in school health work will want to affiliate themselves with their national organization. Walter Wilkins, M.D., Program Chairman, ASHA.

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ABSTRACTS AND NOTES

General Smallpox Vaccination Advised,—All persons who have not been vaccinated successfully within the last five years should be given this protection against smallpox without delay in view of the imminent danger that the disease may be introduced into the State by military personnel and other persons returning from regions in which it is prevalent.

Malignant smallpox is known to exist in Korea, an area from which large numbers of troops are returning continually to the United States and fanning out to all parts of the country. An outbreak has already been reported on the West Coast.

Washington state health authorities reported on April 4: "Thirty-two smallpox cases, known to have originated from contact with an infected soldier returned from the Orient, have resulted in six deaths in the Seattle area." On the same date the California State Health Department made the following statement: "Total cases of smallpox this year to date are seven in San Francisco and one in San Diego. There have been no deaths and the last case was reported March 11."

Vaccination is the only reliable means of preventing the development and spread of smallpox. It is urgently recommended that individuals consult their family physicians and that institutions make arrangements for staff physicians to provide vaccinations as indicated. Advice concerning approved methods of vaccination,

supplies and report forms, may be obtained from the local or district health officers. *Health News*, New York State Dept. Health, Apr. 22, 1946.

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Scarlet Fever,—Since scarlet fever has been shown to be only one of a group of streptococcal infections it can no longer be treated as a distinct disease entity. Accordingly it is listed among the reportable diseases and handled as "Streptococcal Infections, Respiratory (including Scarlet fever, Streptococcal sorethroat, Streptococcal nasopharyngitis, and Septic sorethroat)."

The new regulation brings practice into correspondence with modern knowledge which indicates that Group A streptococcal infections have the same epidemiological significance whether accompanied by a rash or not. The person with a streptococcal sorethroat may spread scarlet fever just as well as the person with scarlet fever. Thus the household where one member shows a response to the erythrogenic toxin, i.e. has clinical scarlet fever, should not be penalized by a long quarantine period while next door neighbors with the same infection, but no rash, are not subject to quarantine. In this connection popular understanding of the need for isolation of even minor respiratory infections in order to protect the patient himself as well as others should be encouraged. The isolation period of the uncomplicated case has been changed to the duration of the acute stage and a minimum of seven days. Quarantine of contacts is no longer mandatory but it should be emphasized that the local health officer still has discretionary power to adopt quarantine if he sees fit. *California Health*, July 15, 1946

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Whooping Cough,—Whooping cough still remains one of the major communicable disease hazards of infants and young children. Although it occurs most frequently during the first six years of life, it is usually fatal only during the first year or two. Provisional reports indicate that of the 53 deaths from whooping cough in Illinois during 1945, forty-four occurred in infants under one year of age.

For long years, physicians and health workers were hampered in their control of whooping cough because no satisfactory means of prevention were available. Therefore, isolation and quarantine were the only available methods of control and, as the disease was infectious before the characteristic whoop developed in the patient, these methods were not particularly effective.

Investigators finally succeeded in producing a whooping cough vaccine which was definitely helpful in the control of the disease because it completely immunized a large percentage of those in-

jected and gave a partial immunity, usually resulting in a modified case, to the remainder.

The great weakness of this vaccine, however, was that it apparently failed to protect against the disease when injected before the sixth month of life. As the greatest number of deaths occurred in children in that age group, efforts were continued to devise a means of protecting these infants. In the meantime, it was considered desirable to make widespread use of whooping cough vaccine in children over six months of age, both to protect them against the disease and to reduce the number of cases among older children, and thereby lessen the possibilities of school age children bringing the disease home to infants in the same household.

The administration of whooping cough vaccine to women late in pregnancy was found to have some beneficial effect in protecting their infants against the disease, and it now appears that an *alum precipitated whooping cough vaccine* is capable of immunizing infants as young as one month of age. Because too much is not yet known about the duration of immunity conferred so early in life, infants injected so early should be reimmunized soon after the seventh month. At that time a combined preparation of alum precipitated diphtheria toxoid and whooping cough vaccine may be used to reduce the number of injections required.

Whooping cough can now be controlled as is diphtheria. The routine use of alum precipitated vaccine during the first months of life will undoubtedly succeed in saving many lives.

Both *alum precipitated whooping cough vaccine* and *combined alum precipitated diphtheria toxoid and whooping cough vaccine* are available, without cost, from the Illinois Department of Public Health. Dr. Jerome J. Sievers, Chief, Division of Communicable Diseases. Reprinted from Illinois Health Messenger, May 15, 1946.

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Flour and Nutrition,—The white flour in popular use for the last sixty years or more has represented a variable fraction of the wheat from which it was extracted. This fraction has been 72 per cent or less. In other words, each 100 pounds of wheat yielded no more than 72 pounds of flour or, in the case of many "patent" flours, only 58 to 60 pounds. The remainder of the wheat, consisting mainly of the outer coatings, went into feed for stock. The outer coatings carried with them about seven-eighths of the thiamine and niacin, three-fourths of the riboflavin and four-fifths of the iron, together with other nutrients of the wheat kernel. Enrichment was developed as a partial remedy for these losses. The standards for enrichment are such that the amounts of thiamine,

niacin and iron in the finished flour approximate those present in whole wheat, while the amount of riboflavin considerably exceeds that contained in wheat.

Eighty per cent extraction flour is now manufactured in compliance with War Food Order 144, effective March 1, 1946. The order requires that "no miller shall produce any flour which consists of less than 80 per cent by weight of the cleaned wheat from which such flour is produced." This procedure is unquestionably desirable if, as is expected by its advocates, it results in saving flour for shipment overseas. The flour also has some small nutritional advantages, particularly with respect to certain protein qualities. The serious disadvantage is the fact that to date the iron, thiamine, riboflavin and niacin values of 80 per cent extraction flour are decidedly variable, but in the case of each of these flour nutrients the levels consistently fall far short of the levels present in enriched flours. Unenriched 80 per cent extraction flours carry around half or less than half as much thiamine, niacin and iron and less than 20 per cent as much riboflavin as enriched flour. If, therefore, the 80 per cent extraction flours and bread made from such flours were not enriched, the result would be a decided reduction of the advantages to the American diet previously achieved through the enrichment of flour of lower extractions and breads made from such flour.

On the other hand the 80 per cent extraction flour if enriched, as is now proposed by the milling and baking industries, is nutritionally superior to the flour it replaces. Its baking qualities have been stated by bakers to be acceptable to the commercial bakers. Whether the home baker will find it satisfactory will soon be seen, and time will tell whether it has sufficient keeping qualities for satisfactory marketing in the high temperatures prevailing in this country in the summer months. Council on Foods and Nutrition, *Journ. A.M.A.*, June 1, 1946, p. 399.

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MEETINGS

The American School Health Association and the American Public Health Association will meet at Cleveland, Ohio, November 11th to 14th, 1946. The Headquarters of The American School Health Association will be at the Hotel Statler. This first post-war meeting will be extremely well attended. Make reservations at once. The October Journal will carry the Program in detail.